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ABSTRACT

A sample of seven colleges was chosen for a study on the research activities of community college faculties in Ontario. Faculty (N=394 out of a possible 865) were asked to indicate how often they participated in 22 different research activities and how characteristic these activities were of their role as community college faculty. The primary interest of the study was to determine the structure underlying the data to see whether community college faculty were using the university definition of what constitutes research (publishing) as a basis for defining their research role as compared to a broader definition of what constitutes research in the community college environment (applied expertise). Results showed that a small core of community college faculty were engaged in traditional university research activities such as reviewing proposals for funding agencies, publishing or editing books and monographs, and delivering papers to professional society meetings. Community college faculty were, however, more apt to engage in research activities related to the applied mission of the community college. These data suggest that continued research should examine what these results might mean in terms of teaching effectiveness, institutional quality, and overall faculty job satisfaction and productivity. Contains 20 references. (GLR)

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# RESEARCH ACTIVITIES OF COMMUNITY COLLEGE FACULTY: EXPERIENCE AT THE ONTARIO COLLEGES OF APPLIED ARTS AND TECHNOLOGY

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ABSTRACT

This paper will report on the results of a study on the research activities of community college faculty in Ontario. Faculty were asked to indicate how often they participated in 22 different research activities and how characteristic these activities were of their role as community college faculty. An exploratory factor analysis was conducted to determine the structure underlying the data to see whether community college faculty are using the university definition of what constitutes research (publishing) as a basis for defining their research role as compared to a broader definition of what constitutes research in the community college environment (applied expertise).

for Management Research, Policy Analysis, and Planning

This paper was presented at the Thirtieth Annual Forum of the Association for Institutional Research held at The Galt House, Louisville, Kentucky, May 13-16, 1990. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Jean Endo
Chair and Editor
Forum Publications Editorial
Advisory Committee

# RESEARCH ACTIVITIES OF COMMUNITY COLLEGE FACULTY: EXPERIENCE AT THE ONTARIO COLLEGES OF APPLIED ARTS AND TECHNOLOGY

It has been uniformly recognized that teaching is the central role and purpose of the community college. This is in marked contrast to the role of universities who have a mandate that involves teaching, research and professional service. Since the community college is described as a teaching environment, there is no formal institutional or peer recognition or reward for the conduct of research. However, there is evidence that community college faculty are engaged in research and community service (Bell, forthcoming). Community college faculty undertake "university" research activities such as presenting papers at professional conferences, and publishing articles in professional journals, as well as undertaking research activities that are environment specific to community colleges such as working with a client to develop and/or adopt a new method or process for solving a problem. Since there is evidence that community college faculty engage in research while employed in predominantly teaching institutions, how do community college faculty define their research role? Do community college faculty define and measure their research role in a manner similar to the research role of university faculty (publishing) or do faculty define and measure their research role by a different yardstick? To answer this question, one must first find out whether or not community college faculty are engaged in traditional university research activities, how characteristic they see these research activities of their

faculty role and how much time they presently spend on research activities. Thus, it is the purpose of this paper to report on the research activities of faculty in the Ontario Colleges of Applied Arts and Technology (CAAT).

## BACKGROUND

Since "research" or "service" is not officially included in the community college mandate, there has been a paucity of research undertaken on the extent, ability, and willingness of community college faculty to undertake research or the extent that faculty engage in service related activities. Most of what has been written on the topic of research and community college faculty can be delineated into three distinct arguments, all of which, for different reasons, argue for the inclusion of research as part of the community college mandate. They are: 1) ageing faculty debate; 2) educator-practitioner debate; and 3) teaching-scholarship debate. It is not the purpose of the paper to assess the merits and flaws of each argument as it may apply to the inclusion of research in the community college mandate, but to simply state that these arguments appear in the literature and to provide a brief description of them.

### 1) Ageing Faculty

Approximately 38 percent of community college faculty in Ontario are between 50 and 64 years of age and 34 percent have 15 or more years of teaching experience (Bell, forthcoming). Including research in the community college mandate could provide

an opportunity for all faculty, but most importantly, an opportunity for ageing faculty to rejuvinate themselves and increase job satisfaction. As Dennison and Gallagher (1984) illustrate:

> As with other people in other institutions and organizations, a substantial part of people in Canada's colleges need renewal if they are to continue to make useful contributions to their students. Opportunities for research are a key instrument of renewal. (p. 262)

The ageing faculty argument is also made by Hansen (1983, p. 214), who primarily deals with research conducted by community college faculty embedded in faculty development activities.

2) Educator/Practitioner

The second argument proffered for including research in the community college mandate is the educator-practitioner debate. Boggs (1988), states that "community college faculty, like their counterparts in the university systems, must remain current in their disciplines and must have opportunities for intellectual growth" (p. 2). As educators, community college faculty disseminate information to students, and as practitioners, faculty are responsible for keeping up to date in their field or discipline. Thus, research activities should be encouraged, and indeed are necessary, if faculty are to stay current as educators as well as practitioners.

3) Teacher/Scholar

The third and final argument made for the inclusion of research in the community college mandate is that in order to be

successful as a teacher you must be successful as a scholar. Oromaner (1986), argues that although teaching "is not a necessary condition for successful scholarship, some form of scholarship appears a necessary condition for successful teaching". As a result, he speculates that the emphasis on teaching in community colleges may have led to a decline in the quality of teaching and therefore research should be included in the mandate of community colleges to maintain excellence in teaching. The teacher/scholar argument is also made by Parilla (1987), Crocker-Lackness (1984), Hopson (1984), Stecklein and Willie (1982: p. 224), Lord (1986) and Boggs (1988).

In a study that does not relate to any of the above themes, but provides evidence of the desire of community college faculty to engage in research, Benoit and Smith (1980) showed that 95 percent of community college faculty in Florida were satisfied with community college work as a career but 29 percent stated that they were dissatisfied with the lack of time for conducting research (p. 269).

## ONTARIO CONTEXT

The Ontario CAATs have always been functionally differentiated from the provincial university sector. Their original mandate, which has changed very little in their twenty-three year history (Dennison and Gallagher, 1986, pp. 95-100), was to develop skilled manpower for a highly industrialized province through a combination of federally and provincially supported programs. While there are a number of cooperative program arrangements, community college

credits on a course by course basis are generally non-transferable to university degree programs. However, on a program basis community college credits are transferable, at least to some extent. For example, a student from a community college with a three year business diploma with a B average (75%) will be granted a maximum of one year of advanced standing in most Ontario university B.A. programs.

The centrality of the teaching function to the CAAT system has left little room for non-teaching related activities. Labour disputes, which have an important impact on the community college environment, have often centered on workload, defined as instructional assignment (Skolnik, 1988). These workload arrangements govern teaching and teaching related functions. Research is not a part of the instructional assignment but may be pursued during professional development time, and of course faculty leisure time.

## METHODOLOGY AND LIMITATIONS OF THE DATA

Nine of the 22 Ontario community colleges were selected by a systematic sample with probability proportionate to faculty size with random start. Two of the nine selected colleges withdrew from the study. One did not agree with certain questions in the questionnaire while the second was abnormally late in distributing the questionnaire to faculty. An analysis of the program structures of the withdrawn colleges indicated that they were similar in size and shared similar regional characterisitcs with

other colleges included in the sample. Thus, the sample is representative of all community colleges in Ontario.[1] 394 responses out of a possible 865 were received, for an overall response rate of 46 percent. Individual college response rates varied from 37 percent to 61 percent. The sample was 57.5 percent male and 42.5 percent female, 10 percent between the ages of 25 and 34, 52 percent between the ages of 35 and 49, and 37 percent between 50 and 64. Finally, 4 percent of faculty have doctoral degrees, 34 percent master's degrees, 14 percent professional degrees, 26 percent either three of four year bachelor's degrees, 12 percent some university training, and the remaining 11 percent community college training.

Faculty were asked to indicate the extent that they engaged in 22 types of research activities, how charactersitic the research activity was of their role as a community college faculty member and what amount of time they devoted to research during instructional periods, non-instructional periods, and during vacations in a one year period. The questionnaire also asked faculty to indicate their area of teaching appointment as one of five divisions: applied arts, business, health sciences, technology and other. The "other" category represents faculty who are not appointed or primarily responsible to one of the four major units, and it includes those appointed to institution specific units such as Natural Resources or Hospitality and Tourism Management. Nineteen percent of the sample taught in Business, 26 percent in Technology, 18 percent in Health Sciences, 26 percent in Applied

Arts and 11 percent in Other Divisions.

## RESULTS

The results indicate that many community college faculty are involved in "university" type research (Table 1). For example, 18 percent have reviewed proposals on behalf of a funding agency, 18 percent have reviewed articles for a professional journal, 20 percent submitted an article for publication, 19 percent had an article published, 24 percent have published or edited a book or monograph, 31 percent have delivered a paper at a professional meeting or conference, 34 percent have engaged in paid consulting, 6 percent published a book review, 16 percent submitted a proposal for a research grant and 10 percent received a research grant. The data also illustrate that faculty are involved in other more diverse types of research activities that are consistent with the applied nature of community colleges. For example, 48 percent worked with an external client to develop a new method or process for solving a problem, 36 percent worked with an external client to adopt a new method or process for solving a problem, 54 percent engaged in a systematic study to develop new/updated knowledge or acquire a new research technique, 31.4 spent a week at a university to work with colleagues in their discipline, 20 percent spent a week with industry to work with colleagues, and 9 percent spent a week at a Government office/laboratory to work with colleagues in their discipline.

Research activity varied extensively by division of teaching appointment. Health Science faculty (29%), Applied Arts faculty

(44%), and Other faculty (41%) were more likely to deliver a paper to a professional meeting than Business faculty (22%) or Technology faculty (19%). Business faculty (47%), Technology faculty (37%), Applied Arts faculty (35%), and Other faculty (32%) were more likely to engage in paid consulting than Health Science faculty (13%).

INSERT TABLE 1 ABOUT HERE

When asked to indicate the amount of time that they spent on research in the period defined, 45 percent of faculty indicated that they spent at least one or more hours per week on research activities during instructional periods, 72 percent spent at least one or more hours per week during non-instructional periods, and 54 percent spent at least one or more hours per week during vacation periods (Tables 2-4).[2] Once again, time spent on research activities varied extensively by divisional appointment. During non-instructional periods, 85 percent of Business faculty spent one or more hours per week on research activities, compared to 54 percent of Technology faculty. During vacation periods, 66 percent of Business faculty and 64 percent of Applied Arts faculty spent at least one or more hours per week on research activities with 41 percent of Business faculty and 38 percent of Applied Arts faculty spending greater than 5 hours per week on research activities.

INSERT TABLES 2 TO 4 ABOUT HERE.

The data clearly indicate that a core of community college faculty are involved in a remarkable degree of research activity given their heavy instructional loads compared to university faculty. This leads us to ask the question: how do community college faculty define their research role? To attempt to shed some light on this question, an exploratory factor analysis was undertaken on the question which asked faculty to indicate how characteristic they saw each research activity as part of their role as a community college faculty member. The factor analysis of the 20 research activities produced six dimensions. The six dimensions utilized 16 out of 20 items, 4 items being eliminated because they failed to discriminate between two or more factors. The factors are: publishing, technology transfer/service, professional development, professional activities, artistic endavours, and grantsmanship. The varimax solution is presented in Table 5.

INSERT TABLE 5 ABOUT HERE

**Factor 1. Publication.**

The five items defining this factor reflect traditional activities of university faculty (Table 6). Each of these items alone, or taken together, constitutes a commitment by community college faculty to producing and disseminating knowledge.

**Factor 2. Technology Transfer/Service.**

The two items that define this factor (Table 7) reflect

research and service activities which are consistent with the mandate of community colleges. These activities reflect a commitment by community college faculty to technology transfer and service.

**Factor 3. Professional Development.**

The three items defining this factor (Table 8) reflect research activities which characterize individual professional development and a commitment by faculty to keep up with developments in their discipline or area of expertise.

**Factor 4. Grantsmanship**

The two items which define this factor (Table 9) reflect university faculty activities of submitting and receiving research grants.

**Factor 5. Professional Activities.**

The two items which define this factor (Table 10) reflect university faculty professional activities.

**Factor 6. Artistic Endevours**

The two items which define this factor (Table 11) reflect activities associated with artistic or fine arts faculty.

INSERT TABLES 6-11 ABOUT HERE

**Factor Means by Division.**

Table 12 displays the means for each factor for the five teaching divisions. The differences between division of teaching appointment are apparent. Technology Transfer/Service receives the

highest score in all divisions. The second highest score in four out of five divisions is professional development. The Publication dimension had the third highest score in all but one division (Other). The lowest scoring dimension is Professional Activities.

## DISCUSSION

The survey results indicate that a small core of community college faculty are engaged in traditional university research activities such as reviewing proposals for funding agencies, publishing or editing books and monographs and delivering papers to professional society meetings. Important as these activities are however, community college faculty are more apt to be engaged in research activities that are environment specific to community colleges. By this I mean research activities that are directly related to the applied mission of community colleges. For example, in the period stated, 58 percent worked with an external client to develop a new method or process for solving a problem, 36 percent worked with an external client to adopt a new method or process for solving a problem and 55 percent engaged in systematic study to develop new/updated knowledge or acquire a new research technique. University faculty would not necessarily consider these activities "research" but this would reiterate and reinforce the argument made by Jones (1988), that a broader definition of what constitutes research is needed when the unit of analysis is the community college or community college faculty.

> Scholarship should not be restricted to the traditional research transcribed into publications. The boundaries of research need to be expanded to include what might be termed "applied expertise"... Applied expertise means we should become visible practitioners of our craft, or, more simply, do what we teach. (p. 41)

Parilla (1987) states that " a concept of scholarship different from the concept of basic research is appropriate to community colleges and is necessary if community colleges are to encourage faculty to engage in such activities". (p. 111)

The factor solution suggests six dimensions. Three of the dimensions seem to be specific to the kinds of activities that university faculty engage in (Factors 1,4,5). Two factors seem to be specific to community college faculty (Factors 2,3) while one (Factor 6) may be applicable to both university and community college faculty.

## CONCLUSIONS

The data presented raise a number of interesting questions for further research and analysis, particularly related to the three arguments made for the inclusion of research in the mandate of community colleges. What is the relationship between faculty who engage in research and those who do not engage in research in terms of teaching effectiveness and the overall quality of their institution? Are those faculty who engage in research more satisfied with their job and therefore more productive than faculty who do not engage in research? It is not possible to answer these questions from the data set described. However, now that empirical

evidence exists on the phenomenon of research activities and community college faculty the next logical step would be to incorporate these broad questions into a new research design.

The overall results indicate that faculty members consider many traditional university research activities at least somewhat characteristic of their work. Whatever the formal mandate of community colleges, activities such as publishing journal articles and books and delivering papers at confrences, are frequently done by community college faculty. Other research activities, which are environment specific to community colleges, and which I will call the application of applied expetise, are more charactersitic of the work of community college faculty. This illustrates that community college faculty are starting to develop (in some jurisdictions it is already well advanced), an organizational culture that gives increasing importance to research and applied expertise.

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1. There are 8,800 full-time faculty and 110,000 full-time students in Ontario Colleges of Applied Arts and Technology.

2. Useing the 20 items as constituting research activity, faculty were asked to estimate the average amount of time per week spent on research during a one year period, during instructional periods, non-instructional periods, and during vacation periods. Instructional periods are periods when there is formally scheduled classes, usually 36 weeks a year. Non-instructional periods are periods during the regular school year that faculty must be at the college engaging in professional development or other activities as defined by their division Chair, up to 8 weeks a year. Vacation periods are approximately 8 weeks.

Table 1. Research Activities of Community College Faculty in Ontario, by Division of Appointment in Percentages

| | Business | Technology | Health Sciences | Applied Arts | Other Divisions | All |
|---|---|---|---|---|---|---|
| A. Served on the editorial board of a journal | 8.1 | 6.0 | 5.8 | 9.2 | 9.1 | 7.7 |
| B. Reviewed proposals on behalf of a funding agency | 13.5 | 19.0 | 8.7 | 19.4 | 27.3 | 17.6 |
| C. Revieved articles for a professional journal | 14.9 | 12.1 | 17.4 | 18.6 | 22.7 | 16.9 |
| D. Worked with an external client to develop a new method or process for solving a problem | 58.1 | 39.0 | 44.1 | 53.0 | 47.7 | 48.5 |
| E. Worked with an external client to adopt a new method or process for solving a problem | 43.8 | 25.3 | 32.8 | 39.8 | 44.2 | 36.4 |
| F. Served as a member of an accreditation team | 9.7 | 12.0 | 5.9 | 15.8 | 7.0 | 11.3 |
| G. Submitted an article for publication in an academic or professional journal | 17.8 | 13.1 | 18.8 | 26.3 | 25.0 | 19.7 |
| H. Had an article published in an academic or professional journal | 15.3 | 13.0 | 20.3 | 22.4 | 27.3 | 19.0 |
| I. Published or edited, alone or in collaboration, a book or monograph | 28.8 | 23.2 | 15.9 | 33.3 | 14.0 | 24.3 |
| J. Published a book review | 0.0 | 7.1 | 7.2 | 4.2 | 15.9 | 6.1 |
| K. Delivered a paper at a professional meeting/conference | 21.9 | 19.0 | 29.0 | 43.9 | 40.9 | 31.0 |
| M. Performed or exhibited an artistic work of own creation | 15.1 | 19.4 | 8.8 | 22.4 | 23.3 | 17.8 |
| N. Published a work of creative writing (poetry, essays, stories, etc) | 4.1 | 4.0 | 5.8 | 12.2 | 11.4 | 7.3 |
| O. Engaged in a systematic study to develop new/updated knowledge or acquire a new research technique | 51.4 | 46.0 | 58.0 | 57.6 | 68.2 | 54.9 |
| P. Engaged in paid consulting with an off-campus organization | 46.6 | 37.0 | 13.0 | 35.1 | 31.8 | 33.5 |
| Q. Submitted a proposal for a research grant | 9.5 | 16.0 | 15.9 | 21.9 | 13.6 | 16.1 |
| R. Received a research grant | 4.1 | 9.3 | 8.8 | 13.8 | 11.4 | 9.5 |
| Q. Spent a week at a University (or other academic institution) to work with colleaques in my discipline | 20.3 | 23.2 | 30.4 | 42.3 | 45.5 | 31.4 |
| R. Spent a week at a Government office/laboratory to work with colleaques in my discipline | 2.7 | 10.0 | 13.4 | 11.6 | 6.8 | 9.4 |
| S. Spent a week at an industrial office/laboratory work to work with colleaques my discipline | 17.8 | 26.0 | 16.4 | 14.4 | 27.3 | 20.1 |

TABLE 2. Faculty Involvement in Research by Division in Percentages During Instructional Periods

| | Business | Technology | Health Sciences | Applied Arts | Other | All |
|---|---|---|---|---|---|---|
| None | 47.3 | 61.0 | 57.1 | 51.5 | 63.6 | 55.3 |
| 1-2 Hours | 16.2 | 17.0 | 15.7 | 10.7 | 15.9 | 14.7 |
| 3-5 Hours | 12.1 | 9.0 | 12.9 | 16.5 | 18.8 | 13.7 |
| > 5 Hours | 24.3 | 13.0 | 14.3 | 21.4 | 2.3 | 16.2 |
| Mean | 2.78 | 1.72 | 1.71 | 2.86 | 1.32 | 2.17 |
| N= | 74 | 100 | 70 | 103 | 44 | 394 |

TABLE 3. Faculty Involvement in Research by Division in Percentages During Non-Instructional Periods

| | Business | Technology | Health Sciences | Applied Arts | Other | All |
|---|---|---|---|---|---|---|
| None | 21.6 | 46.0 | 21.4 | 18.5 | 31.8 | 27.9 |
| 1-2 Hours | 18.9 | 16.0 | 32.8 | 19.4 | 9.1 | 19.8 |
| 3-5 Hours | 12.2 | 6.0 | 17.1 | 19.2 | 27.3 | 15.0 |
| > 5 Hours | 47.3 | 32.0 | 28.6 | 42.7 | 31.8 | 37.3 |
| Mean | 8.01 | 5.29 | 5.21 | 7.55 | 1.78 | 6.54 |
| N= | 74 | 100 | 70 | 103 | 44 | 394 |

TABLE 4. Faculty Involvement in Research by Division in Percentages During Vacation Periods

| | Business | Technology | Health Sciences | Applied Arts | Other | All |
|---|---|---|---|---|---|---|
| None | 33.8 | 51.0 | 61.4 | 35.9 | 56.8 | 46.2 |
| 1-2 Hours | 13.5 | 12.0 | 18.6 | 14.6 | 6.8 | 13.5 |
| 3-5 Hours | 12.2 | 9.0 | 8.6 | 11.7 | 18.2 | 11.2 |
| > 5 Hours | 40.5 | 28.0 | 11.4 | 37.9 | 18.2 | 29.2 |
| Mean | 7.63 | 4.75 | 1.60 | 7.82 | 4.00 | 5.50 |
| N= | 74 | 100 | 70 | 103 | 44 | 394 |

TABLE 5. Six Factor Solution: Loadings

| Item Number | Publi-cation | Tech. Transfer | Profes-sional Dev. | Grants-manship | Profes-sional Activities | Artistic Endevours |
|---|---|---|---|---|---|---|
| A | .26 | .16 | .19 | .15 | .89 | .22 |
| B | .17 | .28 | .22 | .29 | .53 | .18 |
| D | .21 | .86 | .19 | .13 | .16 | .18 |
| E | .26 | .81 | .26 | .14 | .17 | .16 |
| G | .78 | .29 | .20 | .21 | .23 | .23 |
| H | .86 | .25 | .20 | .17 | .18 | .21 |
| I | .61 | .12 | .33 | .18 | .15 | .26 |
| J | .64 | .10 | .27 | .30 | .20 | .24 |
| K | .61 | .29 | .30 | .27 | .12 | .20 |
| L | .24 | .27 | .17 | .19 | .14 | .62 |
| M | .33 | .11 | .17 | .15 | .23 | .75 |
| O | .38 | .16 | .28 | .81 | .21 | .18 |
| P | .36 | .21 | .24 | .64 | .28 | .29 |
| Q | .37 | .22 | .24 | .64 | .28 | .29 |
| R | .37 | .21 | .54 | .21 | .15 | .28 |
| S | .34 | .18 | .62 | .21 | .26 | .13 |
| T | .24 | .30 | .70 | .17 | .14 | .14 |
| Eigen value | 8.94 | .99 | .77 | .61 | .50 | .47 |
| Percent of Variance | 72.8 | 8.0 | 6.3 | 5.0 | 4.1 | 3.8 |
| Cumu-lative percent | 72.8 | 80.8 | 87.1 | 92.1 | 96.2 | 100.0 |

Table 6. Factor 1 - Publications: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| G | Submitted an article for publication in an academic or professional journal. | .78 |
| H | Had an article published in an academic or professional journal. | .86 |
| I | Published or edited, alone or in collaboration, a book or monograph. | .61 |
| J | Published a book review. | .64 |
| K | Delivered a paper at a professional meeting/conference. | .61 |

Table 7. Factor 2 - Technology Transfer/Service: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| D | Worked with a external client to develop a new method or process for solving a problem. | .86 |
| E | Worked with a external client to adopt a new method or process for solving a problem. | .81 |

Table 8. Factor 3 - Professional Development: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| R | Spent a week at a University (or other academic institution) to work with colleagues in my discipline. | .54 |
| S | Spent a week at a Government office/laboratory to work with colleagues in my discipline. | .62 |
| T | Spent a week as an industrial office/laboratory to work with colleagues in my discipline. | .70 |

Table 9. Factor 4 - Grantsmanship: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| P | Submitted a proposal for a research grant | .82 |
| Q | Received a research grant. | .64 |

Table 10. Factor 5 - Professional Activities: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| A | Served on the editorial board of a journal. | .89 |
| B | Reviewed proposals on behalf of funding agency | .53 |

Table 11. Factor 6 - Artistic Endevours: Items and Factor Loadings.

| Q# | Activity | Loading |
|---|---|---|
| L | Performed or exhibited an artistic work of own creation | .62 |
| M | Published a work of creative writing (poetry, essays, stories etc) | .75 |

TABLE 12. Factor Means and Standard Deviati

| | Business | | | Technology | | | Health | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | Mean | S.D | N | Mean | S.D | N | Mean | |
| Publication | 72 | 1.85 | 1.22 | 92 | 0.97 | 0.95 | 65 | 1.37 | |
| Technology Transfer/Service | 71 | 1.48 | 1.37 | 95 | 1.15 | 1.16 | 63 | 1.46 | |
| Professional Development | 71 | 1.24 | 1.41 | 95 | 1.24 | 1.2 | 65 | 1.36 | |
| Grantsmanship | 69 | 0.88 | 1.38 | 91 | 0.62 | 0.91 | 64 | 0.83 | |
| Professional Activities | 70 | 0.53 | 0.91 | 90 | 0.4 | 0.77 | 66 | 0.48 | |
| Artistic Endevours | 69 | 0.68 | 0.96 | 93 | 0.48 | 0.85 | 64 | 0.59 | |

ns for the Six Factors by Division of Appointment

| | Applied Arts | | | Other | | | All | | |
|---|---|---|---|---|---|---|---|---|---|
| .D | N | Mean | S.D | N | Mean | S.D | N | Mean | S.D |
| .26 | 97 | 1.01 | 1.13 | 42 | 1.27 | 1.13 | 371 | 1.10 | 1.11 |
| .43 | 97 | 1.29 | 1.37 | 42 | 1.39 | 1.37 | 370 | 1.35 | 1.35 |
| .28 | 98 | 1.05 | 1.15 | 42 | 1.13 | 1.15 | 373 | 1.21 | 1.23 |
| .18 | 93 | 0.79 | 1.09 | 41 | 0.82 | 1.09 | 360 | 0.78 | 1.12 |
| .03 | 93 | 0.48 | 0.94 | 41 | 0.79 | 0.94 | 363 | 0.51 | 0.00 |
| .09 | 95 | 0.88 | 1.21 | 43 | 0.76 | 1.06 | 366 | 0.66 | 1.04 |